

CRDH Newsletter

CRDH CELEBRATES ITS 20TH ANNIVERSARY

LISA SERBIN

Twenty years ago, Anna-Beth Doyle, Dolores Pushkar, Alex Schwartzman, Donna White, and I submitted an application to the FCAR for the funding of a new research centre. The Centre for Research in Human Development (the Centre de Recherche en Développement Humain, or C.R.D.H.) coalesced around three expanding research teams: one group of researchers working in the area of early child development; a second group studying developmental psychopathology across the life course; and a third team investigating adult development and the maintenance of competence and well-being in adulthood and old age.

From the start, the members of C.R.D.H. shared a common interest in understanding the processes of development and a commitment to examining issues related to the promotion of competence and health across complex domains of human functioning. Tackling complex issues such as social development, peer relations, aggression, the influence of gender on development and mental health called for a diverse and multidisciplinary approach to theory, research design, and methodology. Our research programs stressed the integration of basic and applied studies to allow understanding of both normal and atypical processes of development.

Over the past twenty years, the Centre has expanded to include, as of spring 2001, 27 Faculty members (18 Principal members, 9 Associate members), 60 graduate students and post-doctoral fellows, a dedicated talented staff, and an expanding variety of research programs and projects, currently involving over \$2,000,000 of annual funding from government and private funding agencies. There are now over 85 Ph.D. "graduates" of the Centre, currently working in basic and applied research, academic and clinical settings across Canada and internationally.

As the Centre has expanded, CRDH has remained unique

internationally in our integrated approach to basic and applied issues in human development and our lifespan approach including studies of development from early infancy through extreme old age. Because of the complexity of human development and behaviour, and the complex social and physical environments that must be considered in our research, the research programs at the Centre draw from and integrate theoretical and methodological approaches from a wide variety of relevant disciplines and sub-disciplines. Again, this integrated approach places CRDH within the forefront of the field of developmental science, as it has emerged internationally over the past two decades.

As we move into our third decade, we find that the field has in large part adopted our approach: integrating different perspectives on development to examine increasingly complex phenomena. These now include new approaches to physiological, neuro-psychological and neuro-endocrine functioning and behaviour genetics, which are being integrated with our more traditional fields of developmental research. It is a stimulating time to be a developmental researcher, and those of us who have been working in the field for a while are very excited by these new developments. We are also gratified and energized by the enthusiasm of our younger colleagues who are putting this integrated approach into practice, studying increasingly complex phenomena in health and development.

It has certainly been an exciting 20 years at the research centre, and I am looking forward eagerly to developments in the decades to come. Happy Birthday to everyone!

Note: We are planning a celebration for the Centre's Anniversary, and we are presently trying to contact all Centre graduates. If you are a graduate from CRDH, or you know of one, please contact us (514/848-2240).

ADVANCES IN RESEARCH

NATALIE PHILLIPS

Sometimes it is the things you complain about most that turn out to be the most pleasant surprises. Having found sufficient funding to support my research laboratory, I looked forward to the 1999-2000 academic year as being the first one in which I did not have to prepare a grant application. But nature and workloads abhor a vacuum and the recent reorganization of one of our national research funding agencies put a stop to my dream of leisure. Thus, in 1999, guided by the recommendations of the National Task Force on Health Research, the federal government announced the creation of the Canadian Institutes of Health Research (CIHR). Many of us attended meetings to learn about the changes and reserved judgement as we listened to the plans for the (now) 13 "virtual" institutes. These were to target different health themes, supported by the "four pillars" of CIHR, namely research in biomedical science, clinical science, health systems and services, and the social, cultural, and other factors that affect the health of populations. Seeing the CIHR as wonderfully amorphous and brimming with opportunity, I am sure I was not alone in thinking that I should get a foot in the door and convince them that I was the kind of researcher they were looking to fund. So, just over a year ago I was rushing to finish off an application to the newly minted CIHR/SSHRC/NHRDP Health Career Award competition and grumbling all the while. To my shock and delight, the application was successful. Even better, the award brought with it a partnership appointment wherein the CIHR will fund a new faculty position in the Department of Psychology in the area of health and aging.

Thus, the time seems right to tell you about the various research studies going on in my laboratories. In general, I am interested in both normative and non-normative changes in mental abilities in older adults. Typically, I conduct cross-sectional studies examining cognition using a combination of cognitive and neuropsychological measures and brain imaging, namely event-related brain potentials. As you know, the growth in the relative proportion of older adults is one of the most striking socioeconomic developments in recent time. Projections indicate that by 2001, one-quarter of Canada's population will be over the age of 55 and, by 2011, more than 46% of our population will be age 65 or older (Federal, Provincial, and Territorial Advisory Committee on Population Health, 1999). My long-term goals are to better understand healthy age-related and disease-related changes in language in order to enhance competency and independence in healthy elderly adults and to identify the ways in which cognitive function is compromised in age-related diseases.

Older adults are required to engage in complex interactions and decision making all the time, despite the fact that many are functioning with reduced cognitive resources and basic abilities. One of my major research themes is devoted to understanding the relationship between working memory (WM) and inhibition/executive control processes and the comprehension of language in young adults and older adults. Much of this

work has been conducted with undergraduate students, including Dayle Lesperance, Rosa Matousek, and Tanya Szammer. The general goal is to better understand the factors which influence how older adults process language in less-than-optimal environments. The theoretical framework set by Hasher and Zacks (1988) would suggest that older adults are less able than younger adults to ignore or inhibit the processing of distracting task-irrelevant information. However, our brain activation studies suggest that young adults do not ignore distracting information; in fact, they appear to process it semantically. However, language comprehension in older adults is much more disrupted by task-irrelevant information. The good news is that those older adults with better inhibitory control and working memory capacity fare better. We are currently exploring this issue using more ecologically valid stimuli by having participants listening to naturally spoken sentences in noisy and quiet environments. For those of you who pass by the lab and think we have a lot of cocktail parties, the noise we are using is a 12-voice track of phonologically-correct babble.

A second major aspect of our normative aging work focuses on working memory and cognitive control. This work was initiated with Norman Segalowitz and Catherine Poulsen, and is directed at elucidating the brain mechanisms underlying the flexible control of behaviour and attention. We have observed significant activation over frontal brain areas in young adults during tasks in which participants must prepare for and alternate between two tasks. This dovetails nicely with my interests in cognitive aging and we are currently extending this work to examine questions about attentional control in healthy older adults with typical and atypical patterns of language function. Anyone who has been following the work by Tannis Arbuckle and Dolores Pushkar over the last number of years will not be surprised to find us examining measures of frontal lobe activation in adults with off-topic verbosity. These collaborative studies and related work are being conducted with the participation of graduate students Vivian Akerib, Philippe Goffaux, and Marco Sinai.

Healthy older adults bring a lifetime of acquired knowledge (i.e., semantic memory) to bear on understanding their environment. With Sarah Auchterlonie, we are examining deficits in semantic memory and semantic priming in patients with Alzheimer's disease (AD). Semantic memory refers to our stored representation of the meanings of words, the functions and properties of objects, etc. Often, the naming deficits exhibited by AD patients are taken as evidence of impaired semantic memory; however, it is not clear whether such deficits reflect a loss of knowledge from semantic memory or, instead, reflect a failure to access an otherwise normal semantic network. Based on measures of reaction time and electrical brain activity, our studies indicate that, like healthy elderly adults, AD patients show normal semantic priming for pictures they can name. However, we are also observing interesting patterns of heterogeneity within the patients for pictures they cannot name. Thus, some patients show semantic facilitation (suggesting

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ADVANCES IN RESEARCH

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intact semantic representations) while others do not and we are currently comparing their patterns of brain activation to neuropsychological measures of language to better understand these individual differences. The doctoral research of Luisa Cameli examines another interesting aspect of language impairment in dementia. Currently, very little is known about how age and age-related diseases affected language function in adults who are bilingual. Luisa is examining implicit (e.g., syntactic) and explicit (e.g., vocabulary) language abilities in bilingual patients with Alzheimer's disease and Parkinson's disease. The goal is to determine whether the relatively greater cortical and subcortical pathology seen in these patient groups, respectively, can explain differential patterns of language impairment.

Although seemingly disparate, these research directions are inter-related. I believe it is essential to study neuropsychological impairment in cognitive function seen in AD and other diseases in the context of understanding normative age-related changes in cognition. This should allow us to distinguish between the benign changes in cognition attributable to healthy aging and those that herald the onset of a disease process such as AD. Since AD represents the single biggest challenge to cognitive competence faced by elderly adults, it is essential to understand the nature of such decline. Moreover, it is hoped that this research will help identify how cognitive abilities are influenced by age-related challenges and how these normative changes might be ameliorated.

* The research described is also funded by NSERC and FCAR.

25TH ANNIVERSARY - CONCORDIA HIGH-RISK RESEARCH LABORATORY

ALEX SCHWARTZMAN

This is the 25th anniversary year of the Concordia Longitudinal Risk Project and the 20th anniversary year of CRDH. The original aim of the Concordia Project remains central to its ongoing series of studies - tracking the life course trajectories of aggressive and withdrawn children who are now well into their thirties; and longitudinal risk research in developmental perspective remains a major plank of CRDH's research mandate.

Graduate and undergraduate students working with Alex Schwartzman have been examining psychiatric risk in two ways. The first exploits the advantages of having a longitudinal dataset available. It is essentially time-framed, correlational, and developmental in perspective. The second uses experimental analogue strategies to model the here-and-now processes implicated in psychiatric risk.

Accordingly, there are three students in the Schwartzman laboratory who are engaged in the first line of studies. Kevyn Lee-Genest, Concordia University M.A. Fellow and Datatel Scholar, is examining depressive symptoms in the life course trajectories of aggressive children as well as children who are withdrawn. Her M.A. thesis research centers on the hypothesis that aggression and withdrawal in childhood are contrasts of affective expression of a depressotypic affective state that is prompted and perpetuated by an interaction between child response characteristics and negative life circumstances. Kevyn reported preliminary findings at the Annual Meeting of the Societe Québécoise pour la Recherche en Psychologie (SQRP), held in Hull, Quebec, in October, 2000. She will also be presenting her work at the Annual Meeting of the Canadian Psychological Association in Quebec City, this coming June. Joyce Fellner is completing her Bachelors' Honours Thesis research on the relationship between parenting received and parenting practiced. The hypothesis here is that recall of negative parenting received in childhood will

correlate with reports of negative parenting practised currently, and further, that childhood aggression and withdrawal will have a bearing on this association. Reida Reis who is completing her B.A. Senior Year research project in the Psychology Specialization program is engaged in an exploratory study of behavioural continuities and personality congruencies over the life course by comparing children's self-ratings, ratings by their peers, and their ratings 25 years later of their own aggression, withdrawal, and likeability in childhood, and of their own personality attributes as adults.

In the second line of study, Mark Ellenbogen completed his doctoral thesis research on the effects of a stressful challenge in December, 2000. He monitored mood, attention to affective stimuli, and hypothalamic-pituitary-adrenal (HPA) response to stress. He found that college students with no psychiatric history selectively avoided negative pictures and words, a pattern that was related to effective emotional and HPA regulation. These results which have been presented at a number of annual meetings of the Society for Research in Psychopathology provide a model of how healthy individuals cope with stress and point to an attentional mechanism of emotion regulation that facilitates the maintenance of goal-directed behaviour. Frank Salerno completed his Master's thesis research in December, 2000.

He examined the adaptiveness of the individual as a trait source of influence on stress-related patterns of mood change, cardiac activity, and selective attention. He found that when compared to high-adaptives, low-adaptive individuals reported more stress-related mood lowering and more avoidance of threat cues as the time of the stressor challenge grew closer. There was also an unexpected association between stress-related cardiac reactivity and mood improvement in high but not low adaptives, a finding that warrants further study. Preliminary results were presented at the annual meeting of SQRP held in October, 2000 in Hull, Quebec. Frank is presenting his thesis research at the CPA annual meeting being held in Quebec in June.

EXPERT

BILL BUKOWSKI

Being an expert isn't easy, especially if your expertise exists only in the eyes of a "talent scout" from a radio talk show. On January 8th, at about 11:00 a.m. I received a call from a noontime call-in show on the CBC Radio 1 in Montreal. The caller informed me that I had been identified by my university's public relations officer as an expert on that day's topic, specifically the association between breast size and self-esteem in adolescent girls. Knowing nothing about the topic, having had no direct personal experience with this issue, and lacking the time to find out what the scholarly literature had to say about this matter were not accepted as reasons for not participating in the show. The particular reason this topic was being addressed was related to a story that had appeared in Quebec newspapers about a 15 year-old girl who was frustrated by her lack of breast development. As I remember it, she had seen a child psychiatrist who believed her feelings of inadequacy were related to this aspect of her physical development. An appointment was made with the plastic surgeon and her body was changed, albeit artificially. Following the operation her family had presented the Quebec health system with a receipt for the cost of the surgery along with the letter from the child psychiatrist, asking for a reimbursement. This news generated quite a bit of discussion and the CBC call-in show staff thought it would be an interesting topic. The next thing they did was look for an expert.

The interval between the call and the time of the show gave me a chance to do a quick literature search. My research assistant was rather surprised to hear me say "Find out what is known about breast size and feelings of well-being in adoles-

cent girls." It turned out that there were not many studies. Most of the studies in the more general literature were about the affective repercussions of surgery for breast cancer, something I had naively not expected. The literature specific to adolescent girls, or at least the studies we found, were not numerous and were often short reports of case studies. A few studies had been well done, using population based samples, various forms of physical measures and an array of outcome measures. Our quick review seemed to indicate that the association between chest measurements and adjustment were typically small if seen at all, and were usually stronger in boys than girls. Whereas feelings of body satisfaction were related to one's sense of well being, body satisfaction typically had little to do with one's actual body.

With these data in mind, I waited for my 15 minutes of Wharholian fame. During this time I had a chance to listen to some of the people who called in to the show. They talked about a wide range of issues, including the role of physical development in a teenage girl's sense of becoming a woman as an index of becoming a woman, the pressure that narrow body type images in the media place on young people, the feelings of disappointment that can result from seeing one's peers grow up quicker, and whether this sort of operation should be financed by the health care system. There was nearly universal agreement that 15 was too young for this sort of decision, that it should not be a priority expense for an already over-burdened health care system, and that such a decision should be made by the person and not by her parents. By the time I came on the air, there was not much to say. So, I gladly played the role of the expert, pointing to the wisdom shown by the previous participants.

AWARDS

Diane Poulin-Dubois has received awards from the Ministere des Relations Internationales (Québec) and from the Ministere de l'Education Nationale, de la Recherche, et de la Technologie (France) for a sabbatical leave in France in 2000.

CRDH is proud to announce that 10 CRDH Graduate Fellowships have been awarded this academic year (2000-2001). They are:

- **Vivian Akerib** (Honorary - M.A. Student; supervised by Natalie Phillips)
- **Dahlia Ben-Dat** (M.A. Student; supervised by Lisa Serbin)
- **Kristen Buhr** (M.A. Student; supervised by Michel Dugas)
- **Sara Day** (M.A. student; supervised by Dorothy Markiewicz)
- **Natacha DeGenna** (M.A. Student; supervised by Dale Stack)
- **Tamara Demke** (Honorary - M.A. Student; supervised by Diane Poulin-Dubois)
- **Sarah Frenkiel** (M.A. Student; supervised by Diane Poulin-Dubois)

• **Phillippe Goffaux** (Ph.D. Student; supervised by Dolores Pushkar)

• **Katayoun Kamkar-Parsi** (M.A. Student; supervised by Anna-Beth Doyle)

• **Kevyn Lee-Genest** (M.A. Student; supervised by Alex Schwartzman)

Two of our students, **Natacha DeGenna** (supervised by Dale Stack) and **Kevyn Lee-Genest** (supervised by Alex Schwartzman), are the winners of Datatel Scholar Foundation Fellowships.

Arts and Science has awarded three of our undergraduate students "Research Awards" for 2001. The students are: **Eric Guerbilsky** (working in Dr. Paul Hastings's laboratory), **Samantha Nayer** (working in Diane Poulin-Dubois's laboratory), and **Rose Helen Matousek** (working in Dr. Natalie Phillips's laboratory). Congratulations!

NEW GRANTS

Dr. Michel Dugas has received some new and very interesting grants, all of which are funded by the CIHR. The first of Dr. Dugas's grants is entitled, "Extending the validation of a new cognitive-behavioral treatment for generalized anxiety disorder: Comparison to applied relaxation" (Dugas, Ladouceur, Brillouin, Savard, Turcotte), and is funded for three years. The main goal of this study is to compare the efficacy of two psychosocial treatments for generalized anxiety disorder (GAD), i.e. cognitive-behaviour therapy and applied relaxation training. A total of 102 adults with a primary diagnosis of GAD will be recruited at the Anxiety Disorders Clinic of l'Hôpital du Sacré-Coeur de Montréal and will be randomly assigned to one of three experimental conditions: (1) cognitive-behaviour therapy, (2) applied relaxation, and (3) wait-list control. Findings from this study will help determine the relative outcomes and processes of cognitive-behaviour therapy and applied relaxation training for individuals with GAD.

The second is also for three years and is entitled, "Benzodiazepine discontinuation in generalized anxiety disorder" (Ladouceur, Morin, Dugas, Baillargeon). The specific aim of this study is to evaluate the efficacy of a supervised medication taper procedure combined with cognitive-behaviour therapy for benzodiazepine discontinuation among individuals with GAD who are long term benzodiazepine users. The study addresses two main research questions. First, is cognitive-behaviour therapy in conjunction with a medication taper schedule more effective than medication taper alone for benzodiazepine discontinuation? Second, what is the impact of benzodiazepine discontinuation on GAD related symptoms? Given the high rate of chronic benzodiazepine use in individuals with GAD, this study addresses an important issue for our health care system.

The third is a grant for five years entitled, "Interdisciplinary health research: International team on breast cancer susceptibility". Michel's co-investigators on this grant are Drs. Simard (Principal Investigator), Avard, Bridge, Chiquette, Dorval, Durocher, Easton, Goldgar, Green, Knoppers, Laframboise, Lespérance, Plante, Sinnett, and Vézina. Psychosocial interventions for women undergoing genetic testing for breast cancer susceptibility are justified, given the current consensus that all individuals should have access to psychosocial care and follow-up support, regardless of test results. However, data on the effectiveness of formal psychosocial interventions in improving quality of life outcomes and health behaviours in this context are still lacking. In the context of a health care system that operates on limited resources, Michel and his colleagues have developed a brief individual intervention to help people cope with their test result, as judged by effects on quality of life. This study will evaluate this intervention in a multicentre randomized clinical trial.

Dr. Michael Conway presently has a new grant funded by the FCAR for three years (co-investigators: Tannis Arbuckle, Michel Dugas, Natalie Phillips, Dolores Pushkar, June Chaikelson) entitled, "Le maintien de la compétence durant la période adulte: Les thèmes de contrôle". The research program is concerned with the maintenance of competence and control during adulthood. Competence and control are central constructs in theories of lifespan development. The research addresses themes of control at different stages of adulthood, with the main focus being on older adulthood. In line with a contextualist perspective, the studies address control from many different perspectives and in different settings, since, it is in the context of specific psychobiological, personality, and situational contingencies that control is exercised. Research examines underpinnings of primary control, specifically the impact of the cognitive resources that older adults have at their disposal: language, social communication, and visuospatial memory. In other research, primary control is addressed in terms of individual differences in intolerance of uncertainty. Other studies focus on constraints on primary control in terms of older age operating as a cue indicating lower social status. Another study examines the impact of core personality characteristics in younger, middle-aged, and older adults in terms of life choices and satisfaction in various life domains. Finally, a large scale study on older adults' life reflections is being conducted: the focus is on how older adults reflect on the experiences and changes in their lives as they make the transition to old age and the various dimensions that influence their experience.

Francois Rousseau, who is studying for his doctoral degree in psychology at the Université du Québec à Montréal with Robert Vallerand, is doing a research stage with Dolores Pushkar. They are working on the correlates and consequences of having passionate interests in aging. This study examines basic personality and attitudinal variables of flexibility, tenacity, and activity levels as predictors of passion. The effects of passionate interests on well-being will be examined. The results for seniors will be compared to those of young undergraduates. This research is supported by an internal CASA research grant to Dolores Pushkar & Michael Conway.

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NEW GRANTS (CONTD.)

Dr. Karen Li has been awarded a 4-year NSERC grant for a project entitled, "The regulation of sequential action in adulthood and aging". Several potential hypotheses will be explored to explain the cognitive processes that change with age, and that are responsible for the age-related changes observed in sequential action. These hypotheses include (a) a diminishing short-term / working memory capacity, (b) difficulty retrieving upcoming actions from long-term memory, and (c) reduced inhibitory efficiency with advancing age. The project will systematically examine each candidate hypothesis in isolation and in combination. Results from the project will potentially provide guidelines to improve sequential action control in older adults, and enhance the maintenance of such functions in everyday contexts.

Dr. Li has also been awarded a Concordia University Faculty Research Development Programme grant (FRDP Phases I and II) for 2001-2002. The project is entitled, "The role of inhibition in the regulation of sequential action", and compares young and older adults on their ability to complete sequences of actions in a fixed order. An everyday example would be the series of steps required to make tea. How do we carry out such action series in the correct order? Inhibition, or the suppression of irrelevant information, is seen as a key ingredient of sequential action regulation, and this is observed to decline with aging. A major aim of the project is to understand how older adults adjust their sequential action regulation to accommodate age-related changes in inhibition and in memory capacity.

Dr. Sheila Mason has received a General Research Fund: Arts and Science Faculty award. The project, entitled "A qualitative analysis of life reflections of elderly people: Styles of moral thinking, personality and well-being", focuses on the ethical values that older people express as they reflect on the basic dimensions of their lives, eg., occupation and marital status. Qualitative analysis will be used to study emergent themes in relation to major philosophical systems of ethics.

Drs. Lisa Serbin, Dale Stack, and Alex Schwartzman have been awarded a Child Care Visions grant for 1999-2003. The project entitled, "An interprovincial study of early intervention services on resilience in children with, or at-risk for, developmental delays and their families" is a multi-site project headed by Dr. Maurice Feldman, at Queen's University. This multi-site grant focuses on service delivery, quality and effects of child care services for children with, or at-risk for delay, and their families. In a 3-year longitudinal study at four sites with children at two age ranges (2 to 4 years and 5 to 7 years), the primary objective is to determine which combination and specific features of early intervention services are best suited for which child and family circumstances and produce the best child, parent, and family outcomes.

Drs. Sheilagh Hodgins, Alex Schwartzman, Lisa Serbin, and Dale Stack, along with researchers **Gilles Cote, Michal Abrahamowicz, and Jane Ledingham**, have been funded by MRC/CIHR for three years (1999-2002) a project titled, "Is aggressive behaviour in childhood a specific precursor of physical and mental disorder in adulthood? A prospective, longitudinal study". The project is designed to document physical and mental disorders, criminalized and non-criminalized violence, and the overlap amongst these problems, in a sample of 1200 Canadian men and women from the Concordia Longitudinal project, now well into their thirties. The principal objective is to assess the adjustment of adults whose aggressive behaviour and adversive circumstances in childhood rendered them susceptible to psychiatric illness, poor physical health, and psycho-social difficulties in adulthood. The use of official records (health, death, criminal), trained clinicians, and a standardized, validated diagnostic interview protocol will provide valid diagnoses and facilitate the detection of low base rate disorders and co-morbid disorders.

Drs. Lisa Serbin and Dale Stack have also been awarded, for 1999-2002, a grant from SSHRC entitled, "Predicting success across a critical transition: Parenting and home environment as predictors of competence in a high-risk inter-generational sample". School age offspring of the participants in the Concordia Longitudinal Risk Project are being studied to determine elements of the home environment that are predictive of positive adaptation to the school environment and academic competence during the critical first years of schooling. Children's academic and social/emotional functioning during their early school years are being examined, based on teacher and parent reports, school reports, and standardized achievement tests.

Dr. Diane Poulin-Dubois has been awarded an equipment grant from NSERC. This grant will supplement her current operating grant entitled "The developmental origins of the animate-inanimate distinction".

NEW GRANTS (CONT'D.)

Dr. Nina Howe has received a new grant, along with Richard Tremblay (Principal Investigator), from the Center of Excellence for Children's Well-Being Program, Health Canada, entitled "Centre of Excellence for Early Child Development". The goal of the CEECD is to ensure that the important knowledge about early child development and well-being is broadly distributed among families, community-based organisations, educators, health professionals and government decision-makers. To reach this goal, the CEECD will: (a) collect and analyze health and well-being information and data; (b) participate in focused research on key child health and well-being and development issues; (c) provide policy advice to governments and child-serving agencies; (d) generate information (e.g., encyclopedia, newsletters, CDs, videotapes) and communicate it to a wide range of audiences; and (e) forge local, national, and international networks of individuals and groups involved in children's well-being.

Dr. Anna-Beth Doyle has received a new grant from Health Canada entitled, "Attachment to parents and adjustment in adolescence." (co-investigators: Bukowski, Brendgen, Moretti). This study is to examine evidence for the contribution of positive parent-adolescent relationships to adolescent peer relations and adjustment, including psychological adjustment, engagement in risk taking behaviour, and physical health, in two nationally representative samples of Canadian children and adolescents, the NLSCY Cycle 2 children 10-13 years of age, and the HBSC children 10-15 years of age. It will also examine gender, individual difference and social context factors that may influence the relationship between the quality of parent-adolescent relationships and adolescent adjustment.

Dr. Natalie Phillips has received three very exciting grants. The first is a five-year CIHR Health Career Award to support her work in the study of language and cognition in healthy older adults and neurologically impaired patient groups (entitled "Language and executive control in aging"). This research is described in greater detail in this Newsletter ("Advances in Research" section).

The second award Dr. Phillips has received is a FCAR Equipment grant entitled "Software and amplifiers for an event-related brain potential lab". This award is to support the creation of a cognitive electrophysiology laboratory in the Department of Psychology on the Loyola Campus. This equipment includes a 32-channel amplifier system and stimulating and recording software for recording event-related brain potentials. This equipment is compatible with that in her laboratory at the Jewish General Hospital and will be used for research studies with healthy young and older adults and to establish experimental protocols which will then be applied in the clinical setting.

The third award is from the Canada Foundation for Innovation (CFI), and is entitled "Montreal Network for the Study of Language, Mind and Brain" (S. Baum (P.I.), H. Chertkow, H. Cohen, M. Crago, F. Genesee, D. Ostry, M. Paradis, N. Phillips, N. Spada, L. White, D. Poulin-Dubois, N. Segalowitz, et al.). This is a major equipment and infrastructure award to support state-of-the-art research laboratories in Montreal devoted to the interdisciplinary study of language, mind, and brain. The infrastructure consists of four core inter-related laboratories, including Speech Science Modeling, Language Acquisition, Visual Language Processing, and the Neural Bases of Language. The latter includes a laboratory for high-density recording and neural source modeling of event-related brain potentials (ERPs), a portable ERP set-up for testing normal and neurologically-impaired participants outside of the traditional laboratory, and equipment for recording in a MRI environment.

Dr. Paul Hastings received a grant from the Fonds des Recherches du Sante en Quebec (FRSQ) Young Investigators' Award entitled "Autonomic and neuroendocrine predictors of childhood anxiety problems and successful adjustment to daycare and preschool". This award supports a two-year program of research into the physiological correlates and predictors of children's social competence, anxiety, and adjustment to daycare and preschool. Children between 2 and 5 years of age are being seen in their homes, daycares or preschools, and in the laboratory. In each setting, their social behaviours are being observed while their physiological functioning is being measured. Parents and teachers are providing information on children's social development and adjustment. This research program should contribute to the development of new methods of determining which children are likely to experience difficulties in adapting to the new social environment of daycare and preschool, and helping children to learn ways to cope with this challenging experience.

ORAL THESES

Caminee Blake, supervised by Michael Conway, defended her Ph.D. thesis entitled, "The social significance of having good or poor autobiographical memory from an impression formation perspective", in September 2000. Caminee's focus of research was on how people perceive others as a function of others' ability to remember their pasts. This focal question required addressing a number of background issues. In initial studies, Caminee demonstrated that people consider good autobiographical memory to be normative, both descriptively and prescriptively. People think that most people have good autobiographical memory and think that good autobiographical memory is desirable. Furthermore, in another study, it was demonstrated that people distinguish autobiographical memory (i.e., memory for events and experiences in one's past) from other forms of memory (i.e., memory for course material). In subsequent studies, it was found that people perceive others who have good autobiographical memory as being warm individuals. In contrast, social targets who are described as having poor autobiographical memory are perceived as relatively cold. This warm-cold distinction was observed only as a function of perceived autobiographical memory, and not as a function of ability to remember specific goal-directed information (i.e., course material). This research brings memory ability into the realm of person perception.

Clairalice Campini, supervised by Anna-Beth Doyle, successfully defended her Masters thesis in September, 2000. The thesis entitled, "Attachment stability and its relation to adjustment in adolescence", assessed the relationship between stability of attachment security and adjustment in adolescence. Adolescents (n=131, age 15-17) who had stable secure, stable insecure, or unstable attachments to their mothers across a one-year period reported on their own delinquency, drug use and risky sexual behaviour over the same time period. Adolescents whose attachment security fluctuated, irrespective of direction of shift (unstable group) engaged in a wider variety of delinquent acts at time 1 than adolescents who remained secure from Time 1 to Time 2. Adolescents with unstable attachment security also decreased in delinquency across time.

Karen Colburne, supervised by Dale Stack, successfully defended her PhD dissertation entitled "The emergence of triadic play in mother-infant interactions: Play context and nonverbal communicative behaviours" in September 2000. Karen's focus was on the emergence of triadic play (where a toy is added to infants' play with their caregiver) and on identifying the play contexts in which infants participate. She conducted several important studies. In Study 1, she developed the Relational Play Category Coding Scheme to delineate characteristic bouts of triadic play occurring between mothers and their infants aged 4 to 7 months. The scheme was applied to a longitudinal sample of mothers and their infants during free play with toys at 4, 5 1/2 and 7 months of age (Study 1), and subsequently a cross-sectional (Study 2a) and a longitudinal sample (Study 2b) of mothers and their infants at 4 and 7 months within a face-to-face play context. Karen further explored play context by including type of toy (social or functional) as a variable. As well, she coded infants' gazing and smiling behaviours. The results converged to suggest the mutual influence of mother and infant on the context of early play interactions, whereby the content of play was modified with infants' development. Infants were more autonomous in toy play with age; mothers provided fewer demonstrations of the toys and used fewer physical interventions with older infants. In addition, results from her second study indicated the powerful influence of play context on infants' communicative development. Infants' nonverbal communicative behaviour did not differ as a function of age during dyadic play, but it did differ during triadic play. In addition, it was during the periods that the social and social/functional toys were used that the highest levels of social play were also found to occur. On the basis of her results, it appears that 7-month-old infants were responsive to triadic play with certain toys and engaged with their mothers to a greater degree as measured by infant gazing and smiling. The different triadic play contexts within which mothers and infants engaged, as well as the communicative contexts promoted by the use of different toys, underscores the diverse learning opportunities available to infants during triadic play. Her findings have important implications for the development of communication and play.

In December (2000), **Mark Ellenbogen**, supervised by Alex Schwartzman, successfully defended his Doctoral thesis entitled "Stress and selective attention: The impact of a stressful challenge on mood, cortisol, and the processing of emotional information". The studies presented in this thesis were designed to examine the unfolding of events when an individual is faced with a stressful challenge, by monitoring subjective mood, attention to emotional stimuli, and the hypothalamic-pituitary-adrenal (HPA) response to stress. It was hypothesized that participants would selectively attend to negative words (study 1) and pictures (study 2) following an aversive stressful experience, and that the attentional response to stress would mediate mood and HPA reactivity. Stress induction was achieved by means of a competitive Stroop task with monetary rewards where participants either repeatedly lost (negative stressor) or won (positive stressor) against a confederate. Participants then performed a spatial cueing task assessing attentional shifts towards and away from emotional and neutral stimuli. The results of these studies can be summarized by three major findings. Contrary to predictions, participants selectively avoided negatively-valenced pictures and words. This attentional avoidance response was associated with effective emotional and HPA regulation, suggesting that avoidance in this context may be adaptive as a coping response to stress. Second, changes in processing efficiency or alertness in response to stress were associated with an adaptive and flexible

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attentional style. Finally, participants with mild symptoms of depression and anxiety exhibited different patterns of response to stress than euthymic subjects, several characteristics of which may indicate a vulnerability to psychopathology. In effect, the results of these studies provide a possible model of how healthy participants cope with mild stress, and point to an attentional mechanism of emotion regulation that facilitates the maintenance of goal-directed behaviour.

Nadine Gariepy (supervised by Nina Howe) successfully defended her M.A. thesis in September, 2000. The thesis entitled, "The therapeutic power of play: Examining the play of young children with Leukemia", investigated the play of children being treated for Leukemia compared to a control group of preschoolers. Children's play was observed in the playroom of the outpatient oncology clinic of St. Justine Hospital; control children were observed during free play in a day care center. Children with Leukemia compared to the control children engaged in (a) significantly fewer total play behaviours, (b) less parallel, (c) group, and (d) dramatic play. When the children with Leukemia reported feeling happy, they were more likely to be observed in parallel and group play and less likely to be observed in solitary play. Type of play materials (hospital-related, neutral) did not influence children's play.

In September 2000, **Susan Holm** defended her Doctoral thesis, supervised by Michael Conway. The thesis, "Are gender differences status differences? Coping as a model case", examined the research concerning gender differences in coping. There is a large literature that demonstrates systematic differences in the retrospective reports of coping of women and men. For example, women report seeking more social support than men. The hypothesis was that gender differences in reported coping reflect women's lower social status relative to men. In her research, Susan found that the way people perceive men and women's coping is similar in many respects to how they generally perceive high- and low-status individuals' coping, respectively. Furthermore these social perceptions of gender and status groups' coping concord with men and women's actual retrospective reports of their own coping. The findings are consistent with a status account of gender differences in social behaviour.

Jennifer Karp, supervised by Lisa Serbin, defended her Masters thesis in August, 2000. Her thesis entitled, "The influence of child temperament on cognitive competence in high-risk inter-generational sample: Risk or protective factor?", examined the role of child temperament in the relationship between parental risk status and cognitive competence. Three main questions were addressed: 1) Does parental risk status predict child temperament? 2) Does child temperament act as a mediating variable between parental risk status and cognitive functioning? Importantly, does temperament operate as a risk or protective factor? and 3) What is the nature of the relationship between child temperament and cognitive functioning? These questions were explored within a subsample of high-risk mothers and their infant and preschool-age offspring from the Concordia Longitudinal Risk Project. The longitudinal investigation, which started in 1976, identified individuals who were highly aggressive and/or withdrawn in childhood, and who grew up in lower SES backgrounds. Many of these individuals now have children of their own, which provides a unique opportunity to investigate the trajectories of risk and resilience across generations. Contrary to expectations, parental risk status was not a significant predictor of child temperament in either infants or preschoolers. In the infant subsample, child temperament operated as a risk factor for lower cognitive performance and worked directly to influence IQ, even after controlling for current psychosocial variables. In the preschool subsample, child temperament operated indirectly, through the home environment and parental social support, in predicting children's intelligence scores. The findings were discussed in terms of their implications for taking a developmental approach when studying child outcomes, and the processes by which children's cognitive competence is placed at risk.

On August 28, 2000, **Marina Katerelos**, under the supervision of Diane Poulin-Dubois, successfully defended her M.A. thesis entitled "The concept of animacy versus the object bias principle in 18-month-old's word learning." Marina examined whether the whole object assumption could be overridden when a novel label was presented in the context of a novel object displaying an animate or inanimate motion. To address this issue, 18-month-old infants were presented with an animate object, engaged in an animate motion and an inanimate object engaged in an inanimate motion. A novel label was paired with each of these events. The preferential-looking paradigm was used to examine whether children would look longer at the original action or the original object when presented with the label. The results of the present study revealed that 18-month-old infants were unable to learn a label for an object in motion. It was concluded that children need more exposure in order to learn labels for complex action words. A follow-up study, where the amount of exposure to the stimuli is determined by the individual infant's interest, is currently being conducted.

In August 2000, **Nina Laugesen**, supervised by Michel Dugas, defended her M.A. thesis entitled, "Cognitive correlates of worry in adolescents". Although research on worry has increased over the past 15 years, few studies have examined worry in adolescents (Vasey, 1993). Recently, Dugas and his colleagues (1998) have developed a model of excessive worry that has been highly effective for predicting the tendency to worry in adults. This model proposes that four process variables are associated with excessive worry: intolerance of uncertainty, positive beliefs about worry, negative problem

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orientation, and cognitive avoidance. The goal of the present study is to explore the relationship between worry and these cognitive processes in an adolescent sample. Five hundred and twenty-eight participants aged 14 to 18 years completed questionnaires assessing worry, somatic anxiety symptoms, intolerance of uncertainty, positive beliefs about worry, negative problem orientation, and cognitive avoidance. The first hypothesis, which predicted that each of the four process variables would make a unique contribution to the prediction of worry, was partially supported. Specifically, intolerance of uncertainty, positive beliefs about worry, and negative problem orientation made a unique contribution to the prediction of adolescent worry. The second hypothesis, which postulated that the four process variables would contribute to the discriminant function and that the discriminant function would be effective in classifying moderate and high worriers into their respective groups, was also partially supported. Results revealed that 72.8% of the original grouped cases were correctly classified. Finally, the third hypothesis, which proposed that intolerance of uncertainty would make the most important contribution to the prediction of worry and would be the most important variable in discriminating between moderate and high worry groups, was supported. Results indicate that intolerance of uncertainty may be a fundamental, higher order construct in the development and maintenance of worry in adolescence.

Pascale Lehoux, successfully defended her Doctoral thesis in September, 2000 (supervised by Nina Howe). The thesis entitled, "The role of nonshared environmental factors and personality traits in the etiology of Bulimia Nervosa", examined the differential environments experienced by Bulimics and their sisters, specifically the role of differential sibling experiences and the influence of personality traits on the risk of developing Bulimia Nervosa. Bulimics reported higher rates of eating disturbances and psychopathology than sisters, as well as being more insecurely attached to fathers, higher levels of past shape and weight-related experiences, and greater impulsively, affective instability, and narcissism. A number of factors were reported as shared environmental features (e.g., quality of sibling relationship, childhood sexual and physical abuse). Further analyses indicated both specific nonshared risk factors (e.g., perceptions of shape and weight-related experiences) and non-specific risk factors (i.e., insecure paternal attachment, narcissism) significantly distinguished Bulimics from their sisters, after accounting for depression and anxiety. These perceived nonshared environmental influences may constitute vulnerability factors that predispose individuals to the development of Bulimia Nervosa.

Elka Leiba, supervised by Dale Stack, successfully defended her MA thesis entitled "Maternal nonverbal behaviours and infant gaze during triadic play with toys at 5 and 12 months" in August, 2000. Elka examined nonverbal communicative behaviours in mother-infant interactions during play, emphasizing how mothers adjust their behaviours to the developmental level of their infants and similarly, how infant behaviours change over time. More specifically, nonverbal strategies that mothers use with toys to structure the attention of their infants within a free play context were examined longitudinally at 5 and 12 months of age. Her results indicated that mothers adjusted the duration and frequency with which they used the nonverbal behaviours to attract the attention of their infants and to teach them. These behaviours were also found to relate to infant gaze behaviours. She also found that mothers' displays of active attention decreased over time while they maintained their use of passive affection at 5 and 12 months. Together, the results of her study illustrate the important role that maternal nonverbal behaviours have in mother-infant play interactions and imply that mothers are attuned to the developmental skills of their infants, providing structure to further their abilities. Elka's findings contribute toward a better understanding of the way in which mothers organize play interactions in ways that scaffold the attention of their infants, and teach them.

In September 2000, **Melissa Lieberman** successfully defended her Ph.D. thesis entitled "The association between peer relations, eating behaviors, and body esteem in adolescent girls". Melissa's research was co-supervised by Donna White and Bill Bukowski. The study was designed to investigate the association between peer relations, eating behaviors, and body esteem in a sample of 876 adolescent girls (M age = 14 years). Participants completed questionnaires assessing peer pressure about weight and appearance (i.e., social reinforcement & peer modeling), body esteem, dieting and bulimia, weight and appearance related teasing, self esteem and peer nominations of social rejection, popularity and teasing. Weight and height measurements were taken to calculate BMI. The Composite Social Map (CSM) procedure was used to determine clique membership and status. Data were analyzed at the level of the clique, the friendship pair, and the individual. For cliques, results indicated that nuclear cliques were characterized by higher mean levels of peer pressure than secondary and peripheral cliques. Girls in cliques with higher social reinforcement, higher peer modeling, and an earlier average age of menarche reported higher dietary restraint. For bulimia, higher reports of social reinforcement were associated with higher levels of bulimic behavior. Girls in high pressure cliques with low general self esteem, low body esteem, and high body-shape teasing were more likely to report problematic eating behaviors. For best friend pairs, high between-pair associations were found for average popularity, social rejection, and age of first date, followed by perceptions of peer pressure. Further, dieting was a more common shared characteristic among best friend pairs than bulimic behavior. At the level of the individual, involvement in a close friendship, high opposite-sex relational esteem, severe weight and body-shape teasing, peer pressure about weight and appearance, externalized self-perceptions, and peer attributions about the importance of weight and appearance for popularity and dating were important predictors of problematic eating behaviors. A more complete relational model should also include family variables. These data point to the need for

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developing and implementing multilevel interventions. Prevention should focus on decreasing pressure by peers to be thin, increasing self and body esteem, and combating weight and body-shape related teasing within the school system.

Melisa Robichaud successfully defended her Masters thesis in September 2000, supervised by Michel Dugas. Her thesis, entitled "Gender differences in worry and associated cognitive-behavioural variables", investigated why women worry more than men by looking at gender differences in cognitive variables associated with excessive worry. Two-hundred and twenty-one female and 103 male university students completed six questionnaires assessing trait worry, intolerance of uncertainty, poor problem orientation, erroneous beliefs about worry, and cognitive avoidance. Through the use of MANCOVAs, results showed that women reported significantly more worry than men on two trait worry scales, as well as significantly more worries about lack of confidence issues. Women also reported engaging in significantly more thought suppression and poor problem orientation than men. A trend of significance emerged for a more sensitive relationship between erroneous beliefs about worry and trait worry for men. It is postulated that thought suppression and negative problem orientation may account for women's increased reporting of worry, and that erroneous beliefs about worry may be a more sensitive predictor of worry in men. Hypotheses accounting for the observed gender effects in the cognitive variables used in this study are discussed.

Frank Salerno, supervised by Alex Schwartzman, successfully defended his M.A. thesis entitled, "Personality resources and stress reactivity: Potential mechanisms in stress-related psychopathology" on December 19, 2000. The aim of the study was to explore processes potentially implicated in the formation of symptoms of psychopathology. It was hypothesized that the "adaptiveness" of the individual is reflected in stress-related patterns of mood change, cardiac activity, and selective attention. Cognitive adaptiveness to stress was defined by a profile of five personality traits: locus of control, self-efficacy, self-esteem, optimism, and anxiety. The sample consisted of 38 normally functioning university students who were assigned the stress-inducing task of preparing and presenting a speech for evaluation by a panel of "judges". Stress was assessed via a mood questionnaire and heart rate. Selective attention was evaluated using a reaction time computer task in which participants responded to a dot appearing in the spatial location formerly occupied by either a threat or neutral cue (dot probe task). Faster latencies to dot probes replacing threat cues indicate attentional bias to threat. In general, the results supported the hypothesis that individual differences in adaptiveness affect stress reactions in ways that could increase the risk of psychopathology. Specifically, it was found that: a) individuals low in adaptiveness reported more stress-related mood lowering than those high in adaptiveness, even after differences prior to stress were statistically controlled; b) low adaptives avoided threat cues more than high adaptives in anticipation of an imminent threat; c) low adaptives showed more instability in selective attention patterns than high adaptives; and d) the greater the stress-related physiological arousal, the better the mood in high adaptives. The implications of these findings are discussed in the context of risk and psychopathology.

IN THE NEWS

Karen Li's research from the Max Planck Institute in Berlin, Germany was recently featured on a BBC science series called The Mind Story, which aired in Canada on the Knowledge Network. The research project compared younger and older adults on their ability to coordinate two tasks performed simultaneously. The goal of the project was to study ways in which older adults adapt to changing levels of mental and physical ability when carrying out two activities simultaneously. Recent theoretical work suggests that focusing on the most important activities and letting go of less important ones is adaptive when abilities are declining, and may be tied to well-being and successful aging. This process of selection was studied within the laboratory with two everyday tasks: walking and memorizing. Selection was measured by examining the relative emphasis on one task versus the other. As well, external memory and walking aids were provided so aid use proficiency and preference could be observed. The findings suggest that younger and older adults coordinate walking and memorizing in different ways: younger adults appear to balance their emphasis more evenly between the tasks, whereas older adults protect walking at a cost to their memorizing performance. Proficiency of aid use was also different for the two age groups: younger adults were more successful at using the memory aid provided, whereas older adults were better able to benefit from the walking aid. The overall results suggest that with advancing age, preserving sensori-motor abilities such as walking may require more cognitive or attentional capacity.

IN THE NEWS

Paul Hastings' research was featured in an APA Press Release, and has been the subject of reports in Reuters Health Online, and Parenting Magazine (Hastings, P.D., Zahn-Waxler, C., Robinson, J., Usher, B., & Bridges, D. (2000). The development of concern for others in children with behaviour problems. *Developmental Psychology, 36*, 531-546). Delinquent adolescents and antisocial adults typically show very little empathy and concern for the well-being of others. However, this callousness is not characteristic of aggressive and disruptive preschoolers. In this investigation, children with and without problems of aggression and disruptiveness were followed from preschool-age into the elementary school-age years. Although these groups did not differ in their concern for others at preschool-age, over the subsequent two years the highly aggressive and disruptive children became less likely to express sympathy or offer assistance to others in need. These children were also described as less empathic and prosocial by their mothers and teachers, and in their own self-reports. Children's aggressive and disruptive problems were less stable over time when they showed relatively high levels of concern, suggesting that concern for others may protect against the development of serious externalizing problems. Maternal parenting styles predicted their children's development of greater concern. When mothers reported that they were involved and affectionate, set reasonable limits on their behaviours, provided explanations for rules and reasoned, and avoided being critical or using harsh punishments with their preschool-aged children, two years later the children were likely to show greater concern for others. This research suggests that interventions to foster young children's natural prosocial tendencies, perhaps through parent-training programs, may be an important and effective method of preventing the development of serious, stable externalizing problems.

Recent findings on the early development of gender concepts in infancy, carried out at CRDH by **Lisa Serbin, Diane Poulin-Dubois**, and their students, will be featured in a new BBC series entitled "Child of our Time". This series will follow a group of babies from diverse backgrounds in the U.K. as they develop across childhood. In collaboration with Drs. Serbin and Poulin-Dubois, the producers of the show plan to replicate the laboratory paradigms used for their original studies at an early childhood centre in Britain. The program will demonstrate the interest of the participating babies in gender stereotyped toys and examine their sex-typed play behavior during the second year of life. They also plan to explore the children's increasing knowledge of gender stereotypes and their development of gender identity during the toddler period and preschool periods.

An article by **Marc Thibodeau**, in *La Presse* titled "Les enfants pauvres ne se développent pas normalement" appeared on November 25, 2000, featured an interview with Lisa Serbin, Director of CRDH. In the article, recent findings on poverty and the inter-generational transfer of risk within the ongoing Concordia Longitudinal Study were discussed, with emphasis on implications of the study's findings for the health of young children growing up in inner-city Montreal.

The research of **Diane Poulin-Dubois** and her graduate students Paula Bennett and Rachel Baker on infants' understanding of the human mind and animacy was featured in the Radio-Canada's scientific magazine "Découverte" on April 29th, 2001.

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